

DIN rail mounting
dual loop controller/
analogue acquisition module
D2 line

Quick Guide • ISTR-FD2ENG02



viale Indipendenza 56, 27029 - Vigevano (PV)
Tel.: +39 0381 698 71, Fax: +39 0381 698 730
internet site: www.ascontecnologic.com
E-mail: sales@ascontecnologic.com

Configuration and setting Software

The instrument must be configured using **Controller Explorer** (a proprietary free software). The most recent release of Controller Explorer is downloadable from our web site:

www.ascontecnologic.com

Once connected to the Ascon Tecnologic site, select: **Software** then click on the row: **Controller Explorer**.

Download the most recent version of the software and, when present, any upgrade to the program.

Once installed the Software **and** the upgrades, run the program, the default communications parameters are:

Transmission speed: **9600 bps**;

Protocol: **ModBus**;

Serial address: **247**.

Warning!

When more controllers/instruments are to be installed, keep in mind that the default serial address **always** is 247. For this reason, always connect/power on only 1 not configured instrument a time, in order to avoid the presence, on the same network, of 2 instruments with the same address. During the configuration, assign to each instrument a different serial address.

The "gammadue® and deltadue® controller series

Serial communications and configuration software" manual can be downloaded from the web site:

www.ascontecnologic.com

As for the other manuals, also this one is present in the lower part of the product page.

Model code

The product code indicates the specific hardware configuration of the instrument, that can be modified by specialized engineers only.

Model:	Line		Basic		Accessories		Configuration	
	D	2	5	B	5	D	1 st part	2 nd part
	D	2	5	B	5	D	I L M N	O P Q R

Line	D	2
Output OP1 - OP2	B	
Relay - Relay	1	
Relay - SSR Drive	2	
SSR Drive - SSR Drive	3	
SSR - SSR	4	
SSR - SSR Drive	5	

Configuration code

A 4 + 4 digits index code follows the model (letters from L... R). This code can be used to buy a pre-configured controller.

Input type	Range	PV1	I	L
Input type	Range	PV2	M	N
TR Pt100 IEC751	-99.9...300.0°C	-99.9...572.0°F	0	0
TR Pt100 IEC751	-200...600°C	-328...1112°F	0	1
TC L Fe-Const DIN43710	0...600°C	32...1112°F	0	2
TC J Fe-Cu45% Ni IEC584	0...600°C	32...1112°F	0	3
TC T Cu-CuNi	-200 ...400°C	-328...752°F	0	4
TC K Chromel-Alumel IEC584	0...1200°C	32...2192°F	0	5
TC S Pti0%Rh-Pt IEC584	0...1600°C	32...2912°F	0	6
TC R Pt13%Rh-Pt IEC584	0...1600°C	32...2912°F	0	7
TC B Pt30%Rh-Pt6%Rh IEC584	0...1800°C	32...3272°F	0	8
TC N Nichrosil-Nisil IEC584	0...1200°C	32...2192°F	0	9
TC E Ni10%Cr-CuNi IEC584	0...600°C	32...1112°F	1	0
TC Ni-NiMo18%	0...1100°C	32...2012°F	1	1
TC W3%Re-W25%Re	0...2000°C	32...3632°F	1	2
TC W5%Re-W26%Re	0...2000°C	32...3632°F	1	3
Dc input 0...50mV linear	Engineering units		1	4
Dc input 10...50mVlinear	Engineering units		1	5
Custom input range [1]			1	6

Control mode	LOOP1	O
Control mode	LOOP2	P
ON-OFF reverse action		0
ON-OFF direct action		1
PID single reverse action		2
PID single direct action		3

Output configuration	LOOP1	Q
None		0
OP1		1
OP3		2

Output configuration	LOOP2	R
None		0
OP2		1
OP4		2

[1] For instance, other thermocouples types, ΔT (with 2 PT100), custom linearisation etc.

Declaration of Conformity and Manual retrieval

D2 is a rear panel mounting, Class II instrument. It has been designed with compliance to the European Directives.

All information about the controller use can be found in the manuals:

♦ Installation Manual: MI_D2_EN.pdf

♦ User Manual: MU_D2_EN.pdf

The Declaration of Conformity and the manuals of the controller can be downloaded (free of charge) from the web-site:

www.ascontecnologic.com

Once connected to the web-site, search:

D2

then click on **D2** from the result list.

In the lower part of the product page (in any language) is present the download area with links to the documents available for the controller (in the available languages).

Warning!

- Whenever a failure or a malfunction of the device may cause dangerous situations for persons, things or animals, please remember that the plant must be equipped with additional devices which will guarantee safety.

- We warrant that the products will be free from defects in material and workmanship for 18 months from the date of delivery. Products and components that are subject to wear due to conditions of use, service life and misuse are not covered by this warranty.

Mounting several instruments

1 Mounted the instruments on the rail, put them side by side so that the male side connector fits into the corresponding female connector

2 Then, insert the female 5-pole connector with the termination resistor of the serial communications connector and insert it in the corresponding female connector;

3 Wire the 5-pole male power supply and serial communications connector and insert it in the corresponding female connector

4 When assembled insert the connector protection on both sides.

Parameters list

In the table that follows are listed the parameters of the controller associated to the correspondent serial ModBus address.

For further details, consult the manual: "gammadue® and deltadue® controller series Serial communications and configuration software".

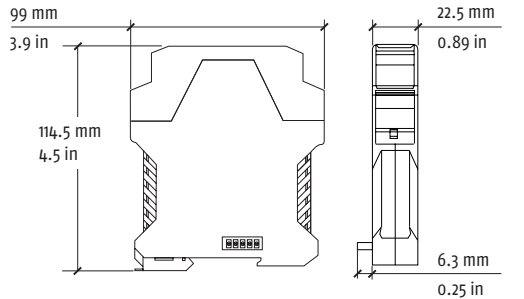
Analogue Loop1

ModBus address	Parameter name	Value		
		Default	Modbus	User
0	Process Value PV			
1	Setpoint (SP)			
2	Control output (OP)			
3	Target Setpoint (SPT)			
4	Local Setpoint (SPL)			
5	Proportional band (hysteresis ON/OFF)	5.0 or 0.5	50 or 5	
6	Overshoot control	1.00	100	
7	Integral time	5.0	50	
8	Derivative time	1.00	100	
9	Control Output Cycle time	20	20	
10	Manual reset	50.0	500	
11	Control output high limit	100.0	1000	
12	Control output low limit	0.0	0	
13	PID Dead Band	Inhibited	0	
14	Output safety value	0	0.0	
15	Setpoint low limit	Low range		
16	Setpoint high limit	High range		
17	Slope up Setpoint	Inhibited	0	
18	Slope down Setpoint	Inhibited	0	
19	1 st stored Setpoint			
20	2 nd stored Setpoint			
21	Input filter PV1 measure	Inhibited	0	
22	Input shift PV1 measure	Inhibited	0	
23	Output stored value	0.0	0	
92	Loop1 Setpoint selection	Local	0	
96	Enhanced Overshoot control management Loop	0.5	5	

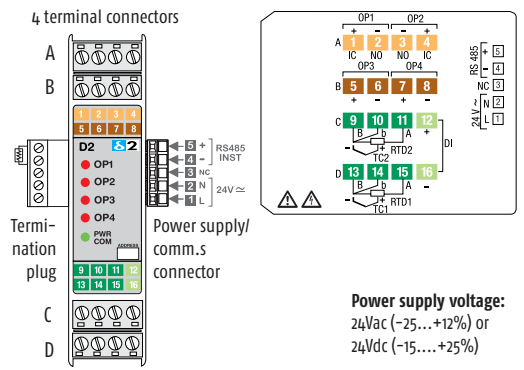
Analogue Loop2

ModBus address	Parameter name	Value		
		Default	Modbus	User
30	Process Value PV			
31	Setpoint (SP)			
32	Control output (OP)			
33	Target Setpoint (SPT)			
34	Local Setpoint (SPL)			
35	Proportional band (hysteresis ON/OFF)	5.0 or 0.5	50 or 5	
36	Overshoot control	1.00	100	
37	Integral time	5.0	50	
38	Derivative time	1.00	100	
39	Cycle time	20	20	
40	Manual reset	50.0	500	
41	Control output high limit	100.0	1000	
42	Control output low limit	0.0	0	

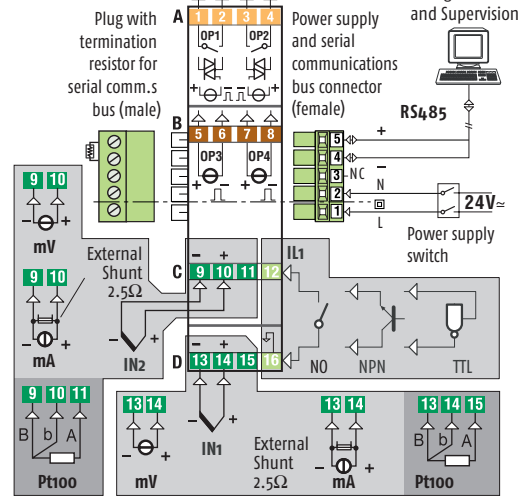
Dimensions



Terminal connectors



Connections



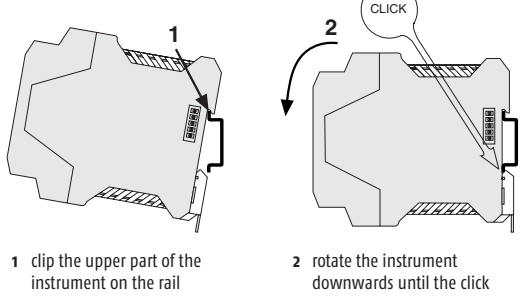
Terminals

Features	A - B - C - D	Bus/Power Supply
Stripped wire	L = 7 mm - 0.28 in.	L = 7 mm - 0.28 in.
Flat blade screwdriver	0.6 x 3.5 mm	0.4 x 2.5 mm
Tightening torque	0.5... 0.6 Nm	0.4... 0.5 Nm

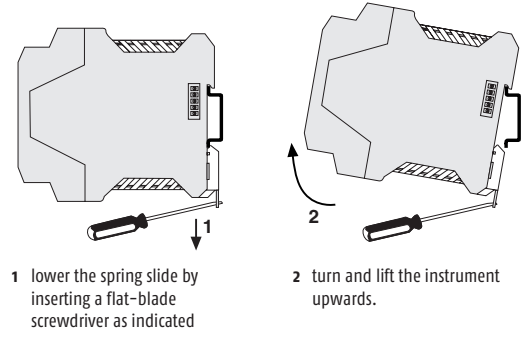
Analogue general

ModBus address	Parameter name	Value		
		Default	Modbus	User
60	AL1 alarm threshold	0	0	
61	AL2 alarm threshold	0	0	
62	AL3 alarm threshold	0	0	
63	AL4 alarm threshold	0	0	
64	AL1 Alarm Hysteresis	0.5	5	
65	AL2 alarm Hysteresis	0.5	5	
66	AL3 alarm Hysteresis	0.5	5	
67	AL4 alarm Hysteresis	0.5	5	
68	AL1 Alarm addressing	PV1	0	
69	AL1 alarm type	Disabled	0	
70	AL1 alarm Latching/Blocking	None	0	
71	AL1 Alarm output	Internal status	0	
72	AL2 alarm addressing	PV1	0	
73	AL2 alarm type	Disabled	0	
74	AL2 alarm Latching/Blocking	None	0	
75	AL2 alarm output	Internal status	0	
76	AL3 alarm addressing	PV1	0	
77	AL3 alarm type	Disabled	0	
78	AL3 alarm Latching/Blocking	None	0	
79	AL3 alarm output	Internal status	0	
80	AL4 alarm addressing	PV1	0	
81	AL4 alarm type	Disabled	0	
82	AL4 alarm Latching/Blocking	None	0	
83	AL4 alarm output	Internal status	0	
90	Autotune activation	Stop	0	

DIN rail mounting



Removing the instrument from the DIN rail
Switch the instrument off



Serial communications connection examples

